

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
29 April 2004 (29.04.2004)

PCT

(10) International Publication Number
WO 2004/035905 A1

(51) International Patent Classification⁷: D06F 55/00

(21) International Application Number:
PCT/BR2003/000149

(22) International Filing Date: 17 October 2003 (17.10.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
PI 0204238-0 18 October 2002 (18.10.2002) BR

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(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

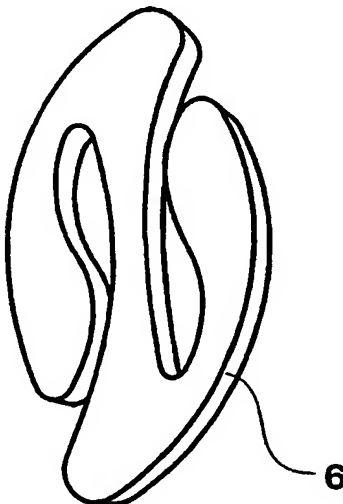
— of inventorship (Rule 4.17(iv)) for US only

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: CLOTHES PIN



(57) Abstract: The present invention relates to an item fastener device of multiple use, made in a single piece (1), which comprises a central body (2) and at least two opposed and symmetrical projections (3A, 3B), lightly projected outside. The fastener is preferably used for holding, by pressure, clothes (8) in a support like a clothesline (7) and, simultaneously, for hanging further lighter objects (9).

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CLOTHES PINField of the Invention

The present invention relates to a fastener for multiple use, particularly used for the clothes drying.

5 Description of Related Art

There are some types of clothespins in the market that vary in material and color in accordance with the following basic structure: three pieces, two mirrored halves made of plastic or wood connected by a third piece, that would be a
10 mechanism of metal spring.

Nonetheless, some drawbacks may be attributed to the current clothespins. The fact of these fasteners are composed by three independent pieces hinders the manufacture and the associated costs thereof.

15 In addition, other inconveniences of the current fasteners consist in:

i) the easy oxidation of the metal springs, that often stains the clothes;

ii) the fact that they are not appropriate for holding
20 delicate clothes; and

iii) the inconceivable facility of breaking thereof.

Summary of the Invention

It is an object of the present invention to provide an item fastener, preferably of clothes, with multiple use,

which is of simple manufacture and inexpensive, that does not destroy the clothes, and that makes possible to optimize the space available at most, presenting high mechanical resistance.

5 This object is attained by a fastener which is made in a single piece and comprises a central body, from where derive at least two lateral projections that extend in opposite directions, displaced outside and present internal grooves.

10 Preferably, the fastener of the invention presents longitudinal symmetry, and is used for holding clothes by pressure and, simultaneously, for hanging delicate clothes and/or clothes provided with shoulder straps.

 According to the invention, the fastener is absolutely
15 innovative with regard to its shape and use. It is manufactured in a single piece, preferably by thermoplastic injection, which substantially reduces the manufacture cost thereof and provides the fastener with incredible durability.

20 The symmetrical shape of the clothespin allows its multiple use, holding the clothes by pressure, for example, in a clothesline, and at the same time, serving as hook for hanging other pieces of clothes, or lighter items, optimizing thereby the available space at most. The use of

a flexible material piece makes possible to the fastener the exclusion of any type of mechanism to open and close, such as, for example, the conventionally used fastener's spring.

5 In accordance with the invention, another advantage of the fastener is its fine thickness, which allows a better storage, facilitating the wrapping and packing.

Brief Description of the Drawings

The invention will be described below in full detail, 10 by the way of example, on the basis of the appended drawings. The figures show:

Figure 1 - a frontal view of a preferred embodiment of the object of the present invention;

Figure 2 - a perspective view; and

15 Figure 3 - illustrates the fastener in use, exemplified in a clothesline.

Detailed Description of the Invention

Figure 1 illustrates the fastener 1 comprising a single piece, which can be made of polymeric material by 20 injection (thermoplastic), wood, non-corrosive metals and other flexible materials. The fastener is provided with a central body 2 and at least two opposite projections 3A, 3B, lightly drawn outside and in the shape of hook so that when the first projection 3A fastens by stressing the item

in a certain support, for example, a clothesline, the second projection 3B necessarily turns upward, acting as a hook capable of bearing additional items, optimizing thereby the available physical space.

5 These projections 3A, 3B have internal grooves 4, that allow the internal item expansion. These grooves 4 can vary according to the thickness and weight of the item to be fastened or supported. In view of structural subjects, these grooves 4 contain round parts 5, with the final
10 shape lightly oval in order to increase the resistance and to eliminate eventual cracks caused by the lateral stressing between the projections 3A, 3B and the central body 2.

 In conformity to the present invention, Figure 2
15 illustrates a perspective view of the fastener, in which the reduced thickness 6 of the fastener can be verified, resulting in saving material, without causing inefficiency in utilization thereof or structure breaking. For the flexible materials here described, the thickness 6 can
20 vary, for instance, in the range of 1 mm to 5 mm. For polymeric materials, this thickness can preferably be of 3 mm.

 Figure 3 shows an example of the fastener use in accordance with present invention. The holding is carried

out in a support, for example, a clothesline 7, in which one of the fastener's projections exert a pressure that hold the clothes 8 due to the material flexibility, while the other projection provides, at the time time, a hook for
5 satisfactory support of other lighter items 9.

Beyond the previously presented embodiment, the same inventive concept can be applied to others alternatives or possibilities. For example, the fastener will also be able to have others structural variations that allow more
10 projections to exercise the hook function in the present invention.

Thereby, it will be understood that the present invention should be interpreted in a wide way, and that its scope is determined by the terms of the appended claims.

CLAIMS

1. Item fastener characterized in that it is made in a single piece (1), comprising a central body (2) from where derive at least two lateral projections (3A, 3B) that are
5 extended in opposite directions, displaced outside and present internal grooves (4).
2. Item fastener as claimed in claim 1, in which the internal grooves (4) are lightly rounded (5).
3. Item fastener as claimed in claim 1, in which the
10 projections (3A, 3B) of the single piece (1) have a longitudinally opposite symmetrical shape.
4. Item fastener as claimed in claim 1, in which the single piece (1) has a thickness (6) that varies, preferably, between 1 mm and 5 mm.
- 15 5. Item fastener as claimed in claim 4, in which the predetermined thickness (6) of the single piece is preferably 3 mm.
6. Item fastener as claimed in claim 1, in which the single piece (1) is made of a flexible and non-corrosive
20 material.
7. Item fastener as claimed in claim 6, in which the single piece (1) is preferably made of a polymeric material.

8. Item fastener as claimed in claim 6, in which the single piece (1) is preferably made of wood.

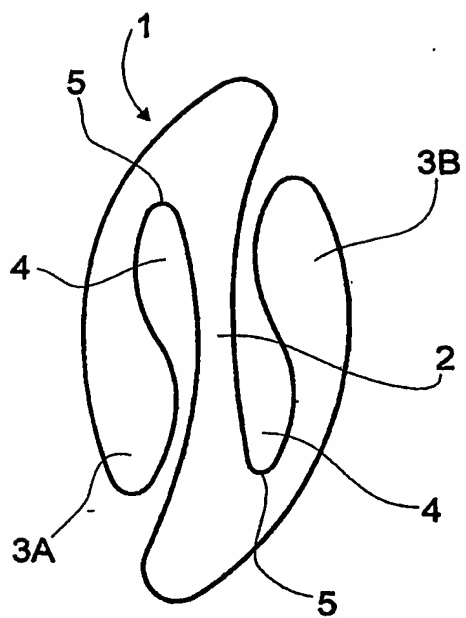


Fig. 1

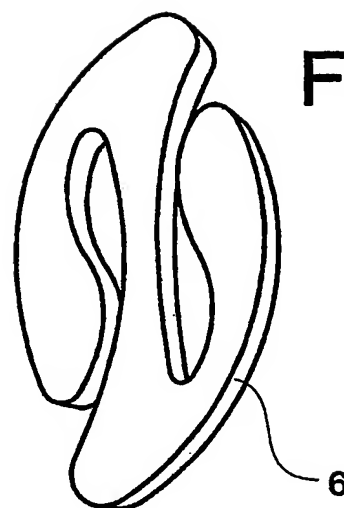


Fig. 2

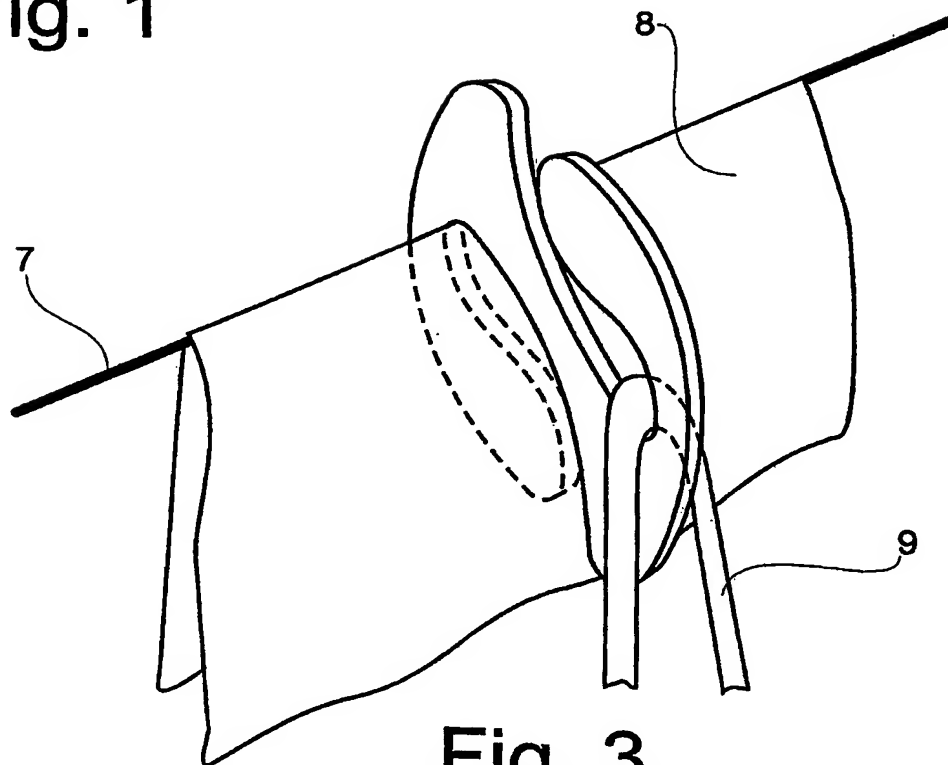


Fig. 3

INTERNATIONAL SEARCH REPORT

International application No.
PCT/BR 03/00149-0

CLASSIFICATION OF SUBJECT MATTER

IPC⁷: D06F 55/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC⁷: D06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPI; EPODOC; PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DE 4326779 A1 (KLEIN) 22 September 1994 (22.09.94) <i>fig. 1; column 1, line 52 - column 2, line 5.</i>	1-8
A	US 3758923 A (MAUDE) 18 September 1973 (18.09.73) <i>fig. 1,3; column 1, lines 31-53.</i>	1-8

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

„A“ document defining the general state of the art which is not considered to be of particular relevance

„E“ earlier application or patent but published on or after the international filing date

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„O“ document referring to an oral disclosure, use, exhibition or other means

„P“ document published prior to the international filing date but later than the priority date claimed

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„X“ document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

„Y“ document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

„&“ document member of the same patent family

Date of the actual completion of the international search

2 December 2003 (02.12.2003)

Date of mailing of the international search report

21 January 2004 (21.01.2004)

Name and mailing address of the ISA/AT

Austrian Patent Office

Dresdner Straße 87, A-1200 Vienna

Facsimile No. 1/53424/535

Authorized officer

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Telephone No. 1/53424/313

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/BR 03/00149-0

Patent document cited in search report			Publication date	Patent family member(s)			Publication date
DE	A	4326779	1994-09-22	DE	U	9303123U	1993-07-22